REMARKS

Upon entry of the present amendments, claims 42-51 will be pending in the application. Claims 1-41 have been cancelled. Applicants reserve the right to pursue the subject matter of these claims in a later application. New claims 42-51 have been added. Support for these amendments can be found throughout the specification (*e.g.*, pgs. 52-57, 128-130 and 148-150). No new matter has been added.

SPECIFICATION

The Examiner has objected to the specification for reciting "Analysis using PSORT and SignalP computer programs predicted that **there is may be** a signal peptide..." (emphasis added). Applicants have amended the specification (page 6, last paragraph and page 9, last paragraph) to recite "Analysis using PSORT and SignalP computer programs predicted that **there is** a signal peptide..." (emphasis added). Thus, Applicants respectfully submit that this objection is now moot and should be withdrawn.

INFORMATION DISCLOSURE STATEMENT

The Examiner has stated that the Information Disclosure Statement filed on July 2, 2001 fails to comply with 37 CFR 1.97, 1.98 and MPEP 609 and that the items listed on the Information Disclosure Statement (B1-B5 and C1-C16) are missing from the application.

Applicants are unsure to the nature of the Information Disclosure Statements failure to comply with 37 CFR 1.97, 1.98 and MPEP 609 and request clarification. However, Applicants suspect that the Examiner is indicating that copies of B1-B5 and C1-C16 are not present. Thus, Applicants herein submit courtesy copies of B1-B5 and C1-C16 listed in the Information Disclosure Statement filed on July 2, 2001 as well as a copy of the return postcard stamped by the USPTO indicating receipt of these items on July 2, 2001.

CLAIM OBJECTIONS

The Examiner has objected to Claim 5 for reciting non-elected subject matter. Applicants have cancelled claim 5. Therefore this objection is now moot and should be withdrawn.

CLAIM REJECTIONS

Rejection under 35 U.S.C. § 101

Claims 5-14, 30 and 33 have been rejected under 35 U.S.C. § 101 as allegedly lacking support by a specific and substantial credible utility. Applicants have cancelled claims 1-41. Thus this rejection, as it refers to these claims is moot and should be withdrawn. Applicants traverse this rejection as it applies to pending claims 42-51.

The requirements for satisfying the utility requirement are explained in the Manual of Patent Examination Practice (MPEP) 8th Edition, which states that only one credible assertion of specific and substantial utility need be specified for an invention:

> **Specific Utility**
>
> A "specific utility" is *specific* to the subject matter claimed. This contrasts with a *general* utility that would be applicable to the broad class of the invention. Office personnel should distinguish between situations where an applicant has disclosed a specific use for or application of the invention and situations where the applicant merely indicates that the invention may prove useful without identifying with specificity why it is considered useful. For example, indicating that a compound may be useful in treating unspecified disorders, or that the compound has "useful biological" properties, would not be sufficient to define a specific utility for the compound. Similarly, a claim to a polynucleotide whose use is disclosed simply as a "gene probe" or "chromosome marker" would not be considered to be *specific* in the absence of a disclosure of a specific DNA target. A general statement of diagnostic utility, such as diagnosing an unspecified disease, would ordinarily be insufficient absent a disclosure of what condition can be diagnosed. Contrast the situation where an applicant discloses a specific biological activity and reasonably correlates that activity to a disease condition. Assertions falling within the latter category are sufficient to identify a specific utility for the invention. Assertions that fall in the former category are insufficient to define a specific utility for the invention, especially if the assertion takes the form of a general statement that makes it clear that a "useful" invention may arise from what has been disclosed by the applicant. *Knapp v. Anderson*, 477 F.2d 588, 177 USPQ 688 (CCPA 1973).

Substantial Utility

> A "substantial utility" defines a "real world" use. Utilities that require or constitute carrying out further research to identify or reasonably confirm a "real world" context of use are not substantial utilities. For example, both a therapeutic method of treating a known or newly discovered disease and an assay method for identifying compounds that themselves have a "substantial utility" define a "real world" context of use. An assay that measures the presence of a material which has a stated correlation to a predisposition to the onset of a particular disease condition would also define a "real world" context of use in identifying potential candidates for preventive measures or further monitoring. Section 2107.01

Applicants submit that at least one substantial and specific utility exists for the claimed invention and is readily apparent based on the teachings of the specification. Pending claims 42-51 are drawn to an isolated polynucleotide that comprises a nucleic acid sequence of SEQ ID NO: 33 encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 34.

The specification discloses that the polynucleotide comprising the nucleic acid sequence of SEQ ID NO:33 encodes the polypeptide comprising the amino acid sequence of SEQ ID NO:34 (Clone 16467945.0.88; PROX 17) (*See*, Table 1 at page 5). The specification discloses that SEQ ID NO:33 is useful in diagnostic applications involving cancer, specifically breast, ovarian, renal and colon cancers (*See*, specification at page 56). The expression analysis results of SEQ ID NO:33 presented in Example 15 shows that SEQ ID NO:33 is over-expressed in breast, ovarian, renal and colon cancer tissue when compared to corresponding normal tissues (*See*, specification at pages 148-150). The specification further discloses that SEQ ID NO:33 may be used as a selective probe for detection or diagnosis of these specific cancers. The specification discloses using the nucleic acid sequence of SEQ ID NO:33 to design probes used to detect transcripts or genomic sequences encoding protein (*See*, specification at page 62). The probes can be labeled and used to identify cells or tissues which miss-express a PROX protein, such as "by measuring a level of a PROX-encoding nucleic acid" in a sample (*i.e.* SEQ ID NO:34). Example 15, provides specific methods for detecting PROX gene expression and specifically shows that SEQ ID NO:33 expression levels differentiate cancer specimens from their normal counterparts. Applicants submit that this constitutes a real substantial and specific utility.

Further, the use of SEQ ID NO:33 expression to differentiate specific cancerous tissue from normal tissue is a specific utility. SEQ ID NO:33 is useful in detecting specific diseased

tissues, not diseases or tissues in general. The specific biological activity of SEQ ID NO:33, expression of SEQ ID NO:34, correlates with specific diseases (*e.g.*, breast, ovarian, renal and colon cancers). The ability to identify specific pathological tissues associated with SEQ ID NO:33 expression and differentiate them from normal tissue is a specific, substantial, credible, and "real world" utility as defined above. In view of the foregoing comments, reconsideration and withdrawal of the rejection of the lack of utility is respectfully requested.

Rejections under 35 USC §112, first paragraph

Enablement Rejection:

Claims 5-14, 30 and 33 were rejected under 35 U.S.C. § 112, first paragraph because, the Examiner asserts that, one skilled in the art would not know how to use the invention since the claimed invention lacks utility. Applicants have cancelled claims 1-41. Thus this rejection, as it refers to these claims is moot and should be withdrawn. Applicants traverse this rejection as it applies to pending claims 42-51.

As discussed above, pending claims 42-51 have a specific, substantial, and credible utility. Because these claims do have at least one specific substantial, and credible utility, Applicants submit that this rejection should be withdrawn.

Written Description Rejection:

Claims 5-14, 30 and 33 were also rejected under 35 U.S.C. § 112, first paragraph for lack of written description. Applicants have cancelled claims 1-41. Thus this rejection, as it refers to these claims is moot and should be withdrawn. Applicants traverse this rejection as it applies to pending claims 42-51.

Applicants submit that the instant specification meets the written description provision of 35 U.S.C. § 112, first paragraph. As discussed *supra*, the expression analysis results of SEQ ID NO:33 presented in Example 15 shows that SEQ ID NO:33 is over-expressed in breast, ovarian, renal and colon cancer tissue when compared to corresponding normal tissues (*See*, specification at pages 148-150). Further, the specification discloses using the nucleic acid sequence of SEQ ID NO:33 to design probes used to detect transcripts or genomic sequences encoding protein for detection or diagnosis (*See*, specification at page 62).

Applicants submit that Example 15 describes specific methods for detecting expression levels of SEQ ID NO:33 and SEQ ID NO:34 (PROX 17) and shows that the results of such procedures can differentiate breast, ovarian, renal and colon cancers from normal tissue and that one of ordinary skill in the art would not have to engage in undue experimentation to practice the claimed invention. Therefore, Applicants respectfully request reconsideration and withdrawal of the present rejection.

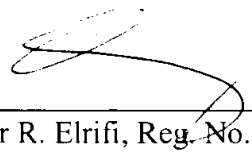
Rejections under 35 USC § 112, second paragraph

Claims 5-14, 30 and 33 have been rejected for allegedly being indefinite. The Examiner states that claim 5 and dependent claims hereto are indefinite with respect to the variant as the claimed sequence can encompass a variation of 15% and there is no indication as to whether or not the variant will be functional or retain the asserted function of the protein. Applicants have cancelled claims 5-14, 30, 33 and therefore this rejection is now moot and should be withdrawn.

CONCLUSION

On the basis of the foregoing amendments, Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,



Ivor R. Elrifi, Reg. No. 39,529
Cynthia A. Kozakiewicz, Reg. No. 42,764
Attorneys for Applicant
c/o Mintz, Levin
One Financial Center
Boston, MA 02111
Telephone: (617) 542 6000
Fax: (617) 542 2241
Customer No. 30623

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